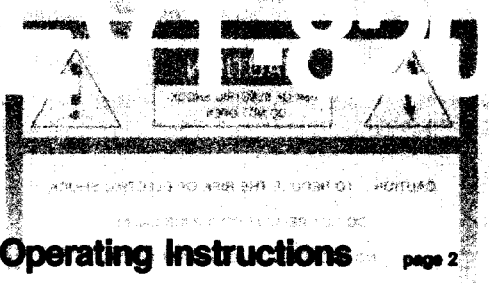
SONY

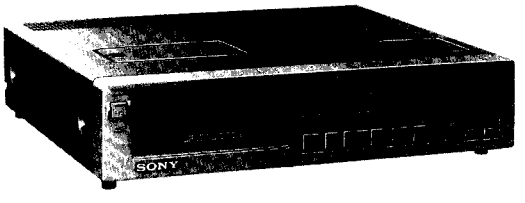


Operating Instructions page 2

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Mode d'emploi page 30

Avant la mise en service de cet appareil, prière de lire attentivement ce mode d'emploi que l'on conservera pour toute référence ultérieure.



WatchCorder

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NATIONAL TECHNICAL DEPT.

English

Owner's Record

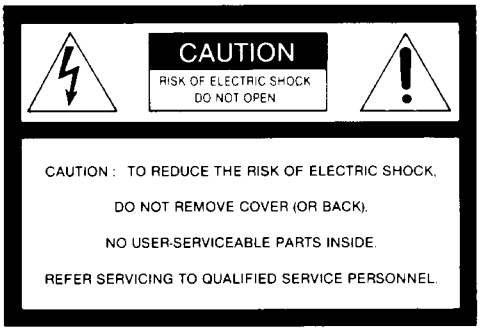
The model and serial number of your set are located on the rear. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. EVT-820 Serial No. _____

CAUTION
The format used in the time lapse recorder EVT-820 differs from the regular 8 mm video format. This unit cannot be used to play 8 mm video cassettes. However, cassettes recorded on this unit may be viewed on a normal 8 mm video cassette recorder.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

For the customers in Canada

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

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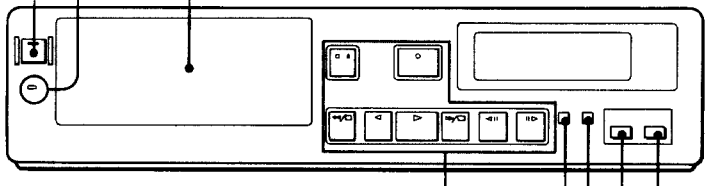
Frame still picture with high resolution	• The frame still picture doubles vertical resolution in comparison to the field still picture. • Horizontal resolution is improved to more than 380 lines in black-and-white mode and more than 260 lines in color mode.
Six time lapse modes	The time lapse intervals for recording can be set in six steps, from 1 frame per 0.25 seconds to 1 frame per 16 seconds. At the longest interval setting, available recording time is a full 760 hours (about 31 days) with one 90-minute tape.
Field still picture with digital memory	For clear and unblurred viewing of fast-moving objects, single fields stored in digital memory can be displayed.
Versatile recording functions	• Alarm recording — Automatic recording at shortest time mode setting when alarm sensor is activated. • Timer recording — Two kinds of timer recording Internal timer recording: Automatic recording at the desired time on the desired days of the week. Up to three programs can be preset for one week. External timer recording: Automatic start of recording when power is supplied from an external timer. • Repeat recording — Automatic rewind at tape end, and recording restart at tape beginning.
Alarm recall and alarm search function	Up to 10 alarm recordings can be listed and the alarm date, time and current time are shown ("Alarm recall"). A still picture can be also obtained at the alarm recording portion ("Alarm search").
Time/date generator	Time and date information, which is invaluable for surveillance and monitoring purposes, can be recorded together with the picture.
Informative display with tape counter	The recording condition and other settings can be checked at a glance on the easy-to-read display. The REC indicator flashes in the same interval as the selected time mode, and the ALARM indicator alerts of any alarm sensor operation.
Power failure backup and automatic recording restart	Time and date settings are retained for up to 72 hours even in the case of a power interruption. During recording, when power is restored, recording automatically continues in the previously selected mode.
REC LOCK function	To guard against operation errors, the record mode can be locked, so that recording is not interrupted even if a button is accidentally pressed.

On safety	• Operate the unit only on 120V AC, 50/60 Hz. • Should any solid object or liquid fall the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further. • Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.
On installation	• Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots. • Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock. • The unit is designed for operation in a horizontal position. Do not install it in an inclined position. • Keep the unit and cassette tapes away from equipment with strong magnets, such as a microwave oven or a large loudspeaker. • Do not place any heavy object (more than 13 kg, 28 lbs) on the unit.
On operation	• When the unit is not in use, turn the power off to conserve energy and to extend its useful life. • Remove and store video cassettes after recording or playback.
On cleaning	Clean the cabinet, panel and controls with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.
On repacking	Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.
On cassette care	Store cassettes in their cases and keep them in an upright position to prevent intrusion of dust and uneven winding.
	If you have any questions about this unit, contact your Sony dealer.

Front Panel and Top Cover



POWER switch and indicator

EJECT indicator
Lights up while a cassette is being ejected.

Cassette holder

Tape operation buttons

STOP/EJECT ■/⏏ button

REC ● (record) button
To start recording, press this button and the ► button.

REW ◄◄/⏮ (rewind) button
Pressing the button during playback permits review (rewind while viewing the picture).

REV ◄ (reverse) button

FWD ► (forward) button

FF ►►/⏭ (fast-forward) button
Pressing the button during playback permits cueing (fast-forward while viewing the picture).

STILL/FRAME ◄II button
Press the button once to view a still picture. Each subsequent push then switches the picture back by one frame. If the field mode was chosen with the FRAME/FIELD button, the picture moves by one field.

STILL/FRAME II► button
Press the button once to view a still picture. Each subsequent push then advances the picture by one frame. If the field mode was chosen with the FRAME/FIELD button, the picture moves by one field.

ALARM RECALL button
Press to display the date and time when the alarm function worked. Up to 10 alarms are displayed. When the alarm function worked 11 times or more (up to 99), only the count number is displayed.

ALARM SEARCH button
Press this button in the stop mode, and then the ◄ or ► button to search the portion of the alarm recording. The unit is set in the still mode at the portion of the alarm recording.

FRAME/FIELD button
Serves to select the still picture playback mode.
Each push cycles the setting through Field 1, Field 2, and Frame.

COUNTER RESET button

PB SPEED switch
Toggles the unit between regular playback speed and the speed shown by the TIME MODE indicator.

TIMER REC (recording) switch
INT: to start or stop recording at the time preset with this unit
EXT: to start or stop recording at the time preset with the connected timer
OFF: when the timer function is not in use

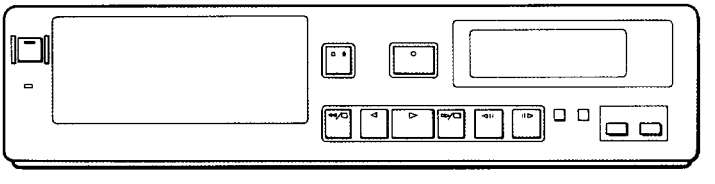
TIME MODE button
Selects the recording time mode (interval setting).
Each push cycles the setting through 12 H, 24 H, 48 H, 96 H, 192 H, 760 H.

SET, ADJUST buttons
Serve to set the date and time.

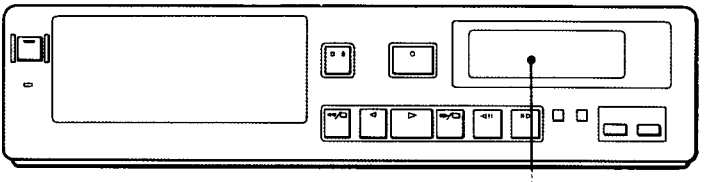
Time date generator selector
T.D. (time/date) SET: to set the time and date
T.D. (time/date) POSITION: to change the position of the time and date
TIMER SET: to set the built-in timer

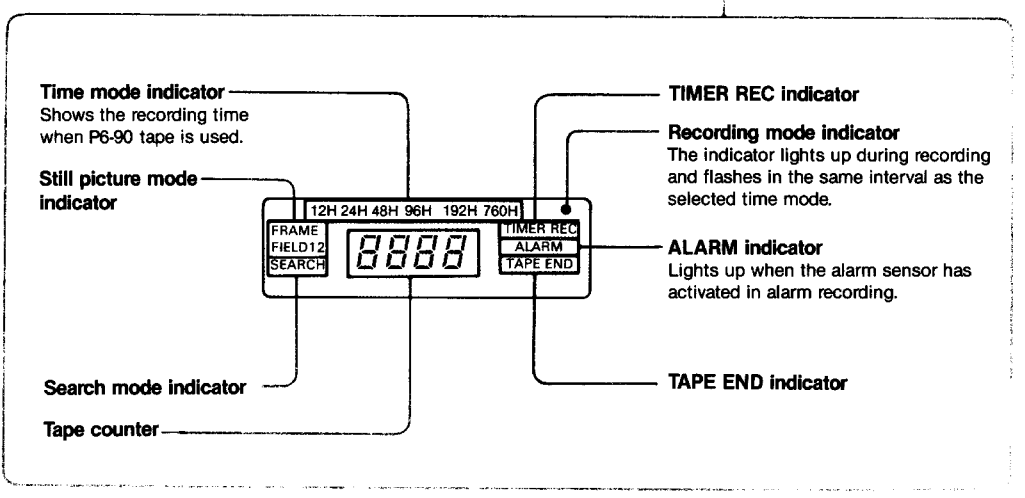
REPEAT REC (recording) switch
Set to ON to use the same cassette for repeated recording. At the tape end, the cassette is automatically rewound and recording restart from the beginning. Only if the alarm sensor was activated, the tape stops at the tape end.

REC (recording) LOCK switch
When set to ON, all front-panel buttons are inoperative after recording is started. This serves to prevent operation errors.



Display Panel




Time mode indicator
Shows the recording time when P6-90 tape is used.
Still picture mode indicator
Search mode indicator
Tape counter
12H 24H 48H 96H 192H 760H
FRAME
FIELD12
SEARCH
TIMER REC
ALARM
TAPE END
TIMER REC indicator
Recording mode indicator
The indicator lights up during recording and flashes in the same interval as the selected time mode.
ALARM indicator
Lights up when the alarm sensor has activated in alarm recording.
TAPE END indicator

Rear Panel

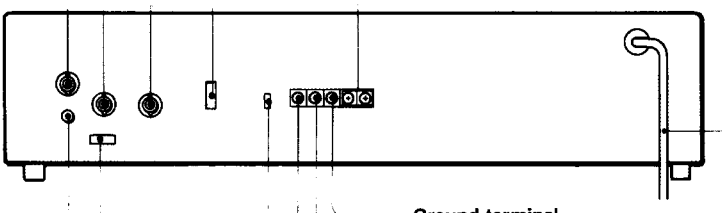
EXT. TIMING OUT (external timing output) connector (BNC connector)
Connect to the external timing in connector of the switcher to switch the video cameras connected to the switcher.
The video cameras are switched every one frame by synchronization with the recording TIME MODE of this unit.
Should you wish to switch the video cameras every four frames, please consult your Sony dealer.

VIDEO IN connector (BNC connector)
Connect to the video output of the video camera.

VIDEO OUT connector (BNC connector)
Connect to the video input of the monitor. During recording and standby, the signal from the VIDEO IN connector is routed straight to the output. During playback, the signal from the tape is supplied.

HEAD HOURS meter
Indicates accumulated time of head drum rotation to provide a reference for maintenance.

SERIES REC (recording) terminals
Connect another EVT-820 recorder. After the recording is filled on the cassette of this unit, the recording is continued on the cassette of another recorder.



Power cord

Ground terminal

Ground terminal
For SERIES REC connection or alarm sensor connection, use this terminal.

ALARM OUT (alarm recovery output) terminal
During alarm recording, a voltage of +5 V is applied to the connected equipment.

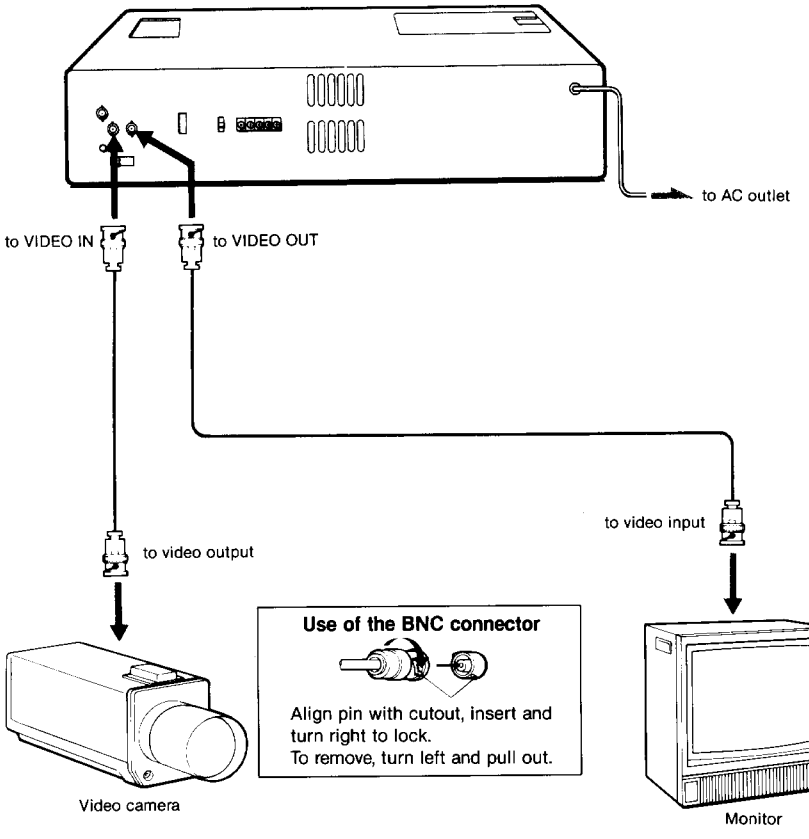
ALARM IN terminal
Connect an alarm sensor.

ALARM REC (recording) PERIOD selector

MAN (manual)	Alarm recording continues for as long as the alarm sensor is ON.
2 MIN	Alarm recording continues for 2 minutes after the alarm sensor was activated.
10 SEC	Alarm recording continues for 10 seconds after alarm sensor was activated.

Video mode switch
AUTO COLOR: Normally set to this position. The unit is automatically set to the color mode or black-and-white mode according to the received signals.
B & W: When the S/N of the black-and-white signal is not sufficient and the unit cannot be switched to the black-and-white mode automatically, set to this position.

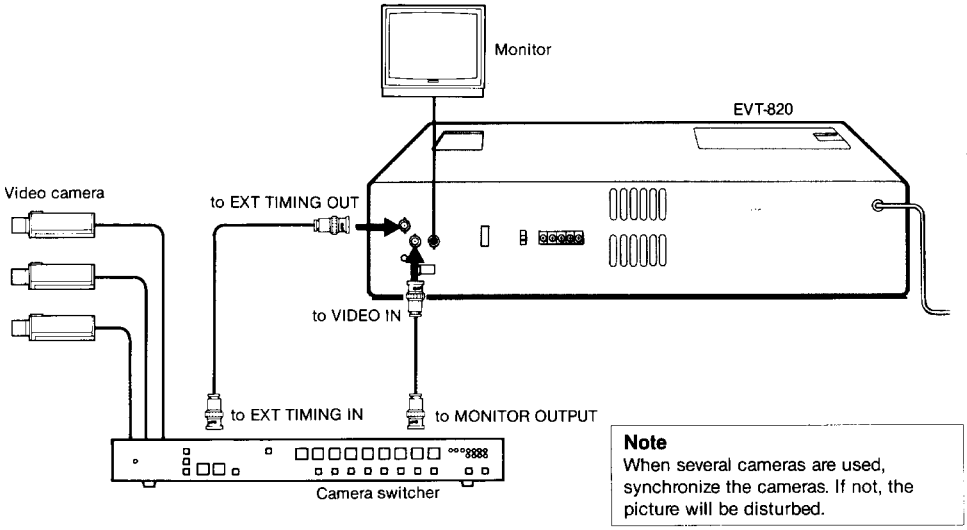
Connecting a camera and monitor


to AC outlet
to VIDEO IN
to VIDEO OUT
to video output
to video input
Use of the BNC connector
Align pin with cutout, insert and turn right to lock.
To remove, turn left and pull out.
Video camera
Monitor

For alarm sensor connection, refer to page 18.

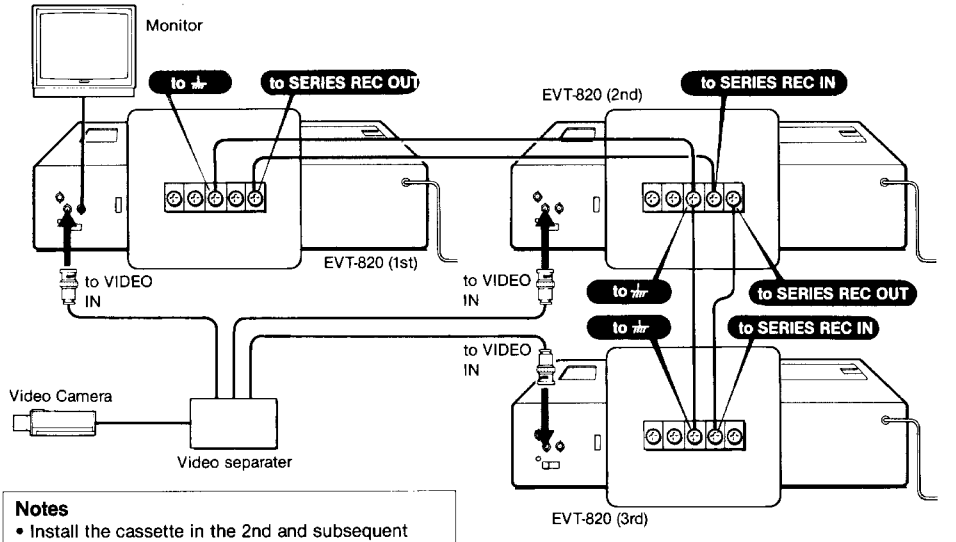
For timer connection, refer to page 24.

Connecting a switcher



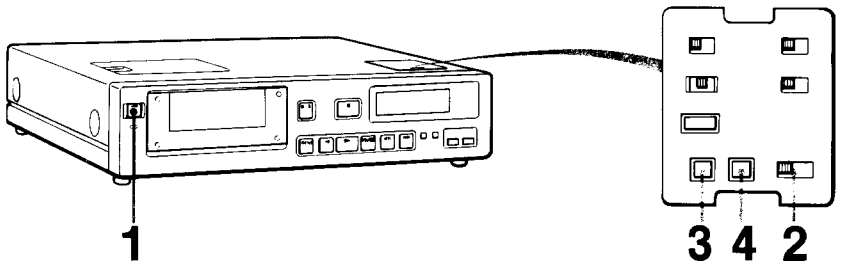
Note
When several cameras are used, synchronize the cameras. If not, the picture will be disturbed.

Connecting another EVT-820 in series



Notes
- Install the cassette in the 2nd and subsequent recorders also and turn off the power.
- Set the REPEAT REC switch to OFF.

Only the last two digits of the year are shown. The day of the week is adjusted automatically.

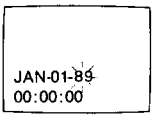


1 **Turn on the camera, monitor and EVT-820**

2 **Set the time date generator selector to T.D. SET.**

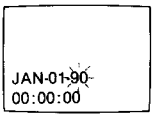
3 **Press the SET button for 3 seconds.**
The year flashes.

During the adjustment, the clock stops.

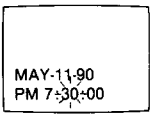


4 **Press the ADJUST button to call up the desired number.**
When no adjustment of that item is necessary, just proceed to the next step.

Number setting Tapping the ADJUST button once advances the number by one count. When the button is kept depressed, the numbers advance continuously.

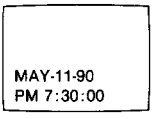


5 **Press the SET button and repeat step 4 until the date, (month, day) and time (hour, minute) is correct.**



Setting example:
MAY 11
1990, 7:30 p.m.

6 **Press SET to enter the setting.**
The clock starts moving from 00 seconds.



After a power interruption
If power was interrupted for less than 72 hours (and the backup battery was fully charged), correct date and time will be maintained. The selected recording mode is also stored, so that recording automatically continues after power is restored.
The internal backup battery is charged while the unit is operating.
For a full charge, the unit must be plugged in for about 40 hours.

To change the adjusted item during setting

1 Press the SET button repeatedly until the clock starts operating.
2 Press the SET button for 3 seconds so that the year item blinks.
3 Press the SET button repeatedly until the item to be changed blinks.
4 Change the item with the ADJUST button and then press the SET button.

To readjust the date or time after the setting has been completed.

1 Set the time date generator selector to T.D. SET.
2 Press the SET button for 3 seconds.
3 Press the SET button repeatedly until the digits to be changed blink.
4 Change the item with the ADJUST button and press the SET button repeatedly until the clock starts operating.

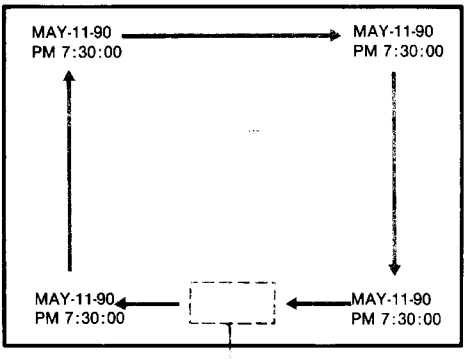
After setting the date and time

Set the time date generator selector to T.D. SET.

To change the position of the date and time display

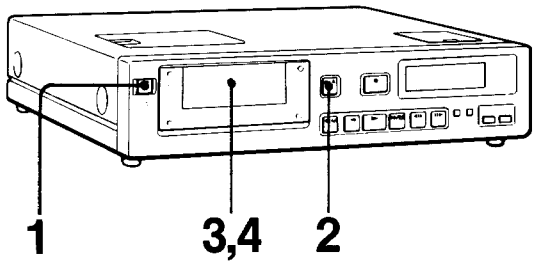
1 Set the time date generator selector to T.D. POSITION.
2 Press the SET button.

Each push of the SET button sequentially changes the position of the date and time display.



no indication
(The date and time is not recorded with the picture)

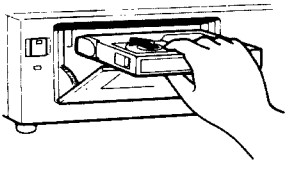
Inserting the Cassette



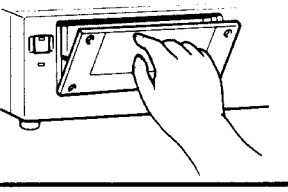
1 **Turn on the power.**

2 **Press the ■/≜ button.**

3 **Fully insert the cassette with the tape window side up.**



4 **Close the cassette holder.**



Removing the cassette

1 Turn on the power.
2 Press the ■/≜ button.
3 Remove the cassette and close the cassette holder.

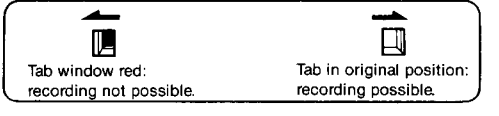
Always insert the cassette correctly, with the window facing up. Video cassettes can only be used on one side.

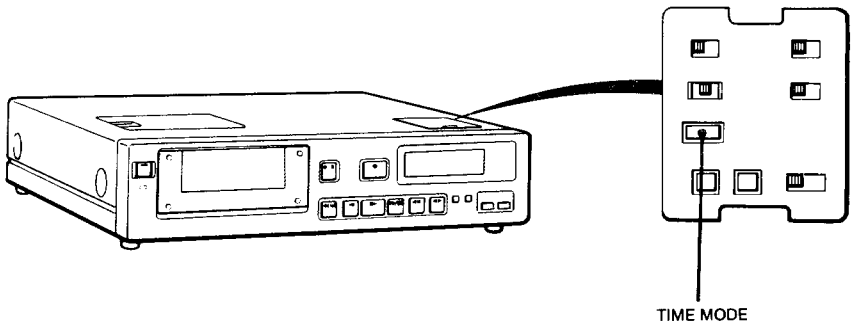
Note

According to the tape, there are a few creases at the beginning and end of the tape. The picture quality will be reduced at these portions.

Record prevention tab

When a recording is made on a cassette, any previous material will be automatically erased. To protect a cassette from accidental erasure, slide the tab on the rear of the cassette to the left, so that the tab window is red.





Press the TIME MODE button to select the desired recording time.
Each push of the button cycles the unit through six possible settings.

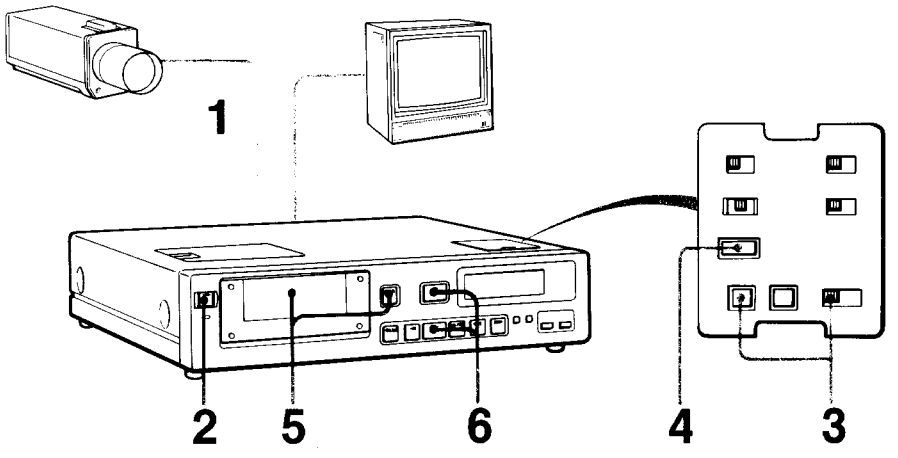
Recording time and intervals

Time mode indicator	Maximum recording time with 90-minute tape	Interval	Maximum recording time for other tapes	
			30-minute tape	60-minute tape
12H	12 hours	approx. 0.25 second	4 hours	8 hours
24H	24 hours	approx. 0.5 second	8 hours	16 hours
48H	48 hours (2 days)	approx. 1 second	16 hours	32 hours
96H	96 hours (4 days)	approx. 2 seconds	32 hours	64 hours
192H	192 hours (8 days)	approx. 4 seconds	64 hours	128 hours
760H	760 hours (31 days)	approx. 17 seconds	253 hours	506 hours

On cassettes
- The EVT-820 is designed and calibrated with 90-minute tape (Sony P6-90). To ensure stable operation and optimum picture quality, the use of Sony 90-minute tape is recommended.
- Do not use the ME tape.

The principle of extended recording
The extremely long recording times offered by the EVT-820 are made possible by moving the tape only for small incremental steps while a video picture is recorded.

For more extended recording
Connect another EVT-820 to the SERIES REC terminals of this unit. After the cassette of this unit ends, recording will be continued on a cassette of another EVT-820. (See page 11.)



1 **Turn on the camera and monitor**

2 **Turn on the EVT-820.**
Confirm that the picture from the camera is shown on the monitor.

3 **If wishing to record the date and time, set the time date generator selector to T.D. POSITION and press the SET button to decide the position of the date and time.**
Confirm that the correct date and time are displayed.

4 **Select the recording time with the TIME MODE button.**

5 **Insert the cassette.**

6 **While pressing the ● button, press the ► button.**
Recording will start.

To stop recording
Press the ■/⏏ button.

If recording does not start and the cassette holder opens
The record prevention tab is set to prevent recording. Change the tab setting (see page 14).

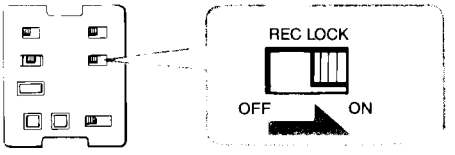
When the tape end is reached
The TAPE END indicator on the display panel lights up and the tape stops. Power to the unit is not switched off automatically.

When the unit cannot be switched to the black-and-white mode correctly according to the signal from the black-and-white video camera
Set the video mode switch to B & W.

REC LOCK Function

Locking the record mode is useful to guard against accidental recording interruptions when the unit is used for surveillance or monitoring purposes.

Selector switch panel



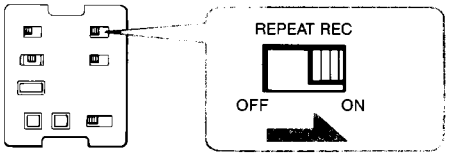
All buttons on the front panel are inoperative.
(The buttons and switches on the selector switch panel can be used normally.)

To stop recording, set the REC LOCK switch to "OFF" and then press the ■/⏏ button.

Repeated Recording on the Same Cassette

This function is suitable for applications where the recording is only to be used when something unusual has occurred. Before repeat recording, perform daily check routine (see page 27).

Selector switch panel

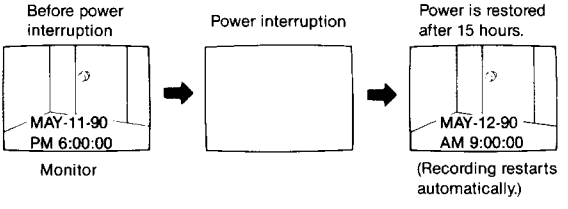


When the tape end is reached, the cassette is rewound and recording starts again from the beginning. If the ■/⏏ button or another transport button was pressed during automatic rewind, repeat recording is not carried out.

If alarm recording was carried out at least once, the tape stops at the tape end.

Automatic Recording Restart after a Power Interruption

This feature is also useful for example in banks or offices, where power is cut off overnight during recording. Recording will automatically continue when power is switched on in the morning.



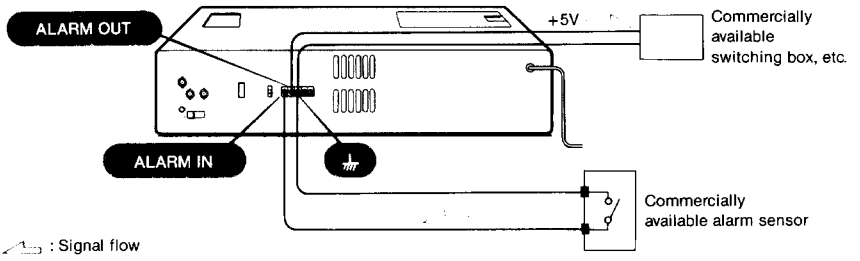
The internal backup battery maintains date and time settings as well as the selected record mode for up to 72 hours. **When power is restored, recording automatically continues in the previously selected mode.**

For full backup battery charge,
the unit must be plugged in for about 40 hours.

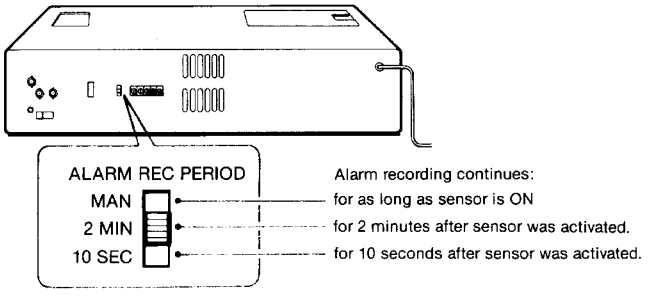
If ": : : :" appears instead of date and time display
Set the date and time again and charge the backup battery fully.

A door switch or alarm sensor can be used to trigger alarm recording. During alarm recording, the 12 hour (12H) time mode setting is automatically selected, to provide detailed picture information, and a voltage of +5V is applied to the connected equipment.

Alarm Sensor Connection



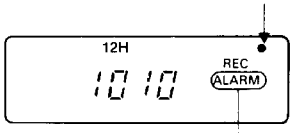
Selecting the Alarm Recording Period


ALARM REC PERIOD
MAN
2 MIN
10 SEC
Alarm recording continues:
for as long as sensor is ON
for 2 minutes after sensor was activated.
for 10 seconds after sensor was activated.

Other recording period settings are also possible. Please consult your Sony dealer for details.

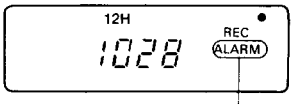
Display during alarm recording

During alarm recording
Flashes in shortest time mode setting



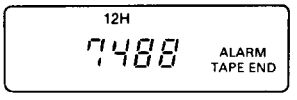
Lights up.

Alarm recording terminated
Regular recording resumes.

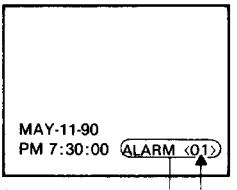


Indicator stays lit to show that alarm recording was carried out.

Recording stops at tape end.



Monitor



Lights up.
(An "ALARM <01>" is recorded on sections which were taken during alarm recording.)

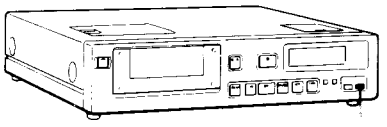
Alarm count number

When the date and time display are located at the lower right position, the ALARM <01> indication is displayed at the lower left position.

To go off the ALARM indication

Press the ■/⏏ button and stop the tape.
When the tape is at its end, the cassette will be ejected.

Displaying the Alarm List — Alarm Recall



ALARM RECALL

Press the ALARM RECALL button.
The date and time when the alarm function worked and the number will be listed up to 10 times.
When the date and time are not adjusted, the "- -" is displayed.
When the alarm function has worked 11 times or more, only the count number will be displayed.
When the alarm function has worked 100 times or more, the count number remains at 99 times.

1	MAY-17-90	AM	1:08:10
2	MAY-17-90	AM	1:53:02
3	MAY-17-90	AM	2:11:02
4	MAY-17-90	AM	2:30:13
5	MAY-17-90	AM	2:51:13
6	MAY-17-90	AM	2:59:13
7	MAY-17-90	AM	3:16:02
8	MAY-17-90	AM	3:33:00
9	MAY-17-90	AM	3:55:02
10	MAY-17-90	AM	4:07:03
*	ALARM <30>		

Count number

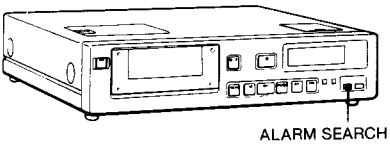
When the ALARM RECALL button is pressed during recording
The alarm list can be recorded with the picture while shooting with video camera.
The list disappears after approximately 30 seconds.

When the ALARM RECALL button is pressed during internal timer recording, the ALARM RECALL button does not function.

When the ALARM RECALL button is pressed in other modes
The alarm list will be displayed.
To turn off the list, press the ALARM RECALL button again. (The list remains in memory).

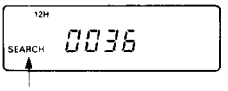
To clear the memory of the alarm list
Eject the cassette.
To store the list, record it.

Searching the Picture when the Alarm Function Worked — Alarm Search



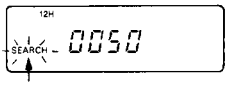
ALARM SEARCH

1 Press the ALARM SEARCH button in stop mode.



lit

2 Press the ◄ or ► button.
The cassette will stop at the portion where the alarm function worked and the still picture playback is displayed.

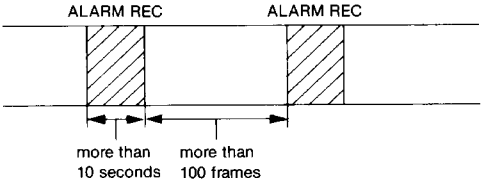


blinking

To search the next or previous alarm picture
Press the ◄ or ► button (while the SEARCH indicator appears).

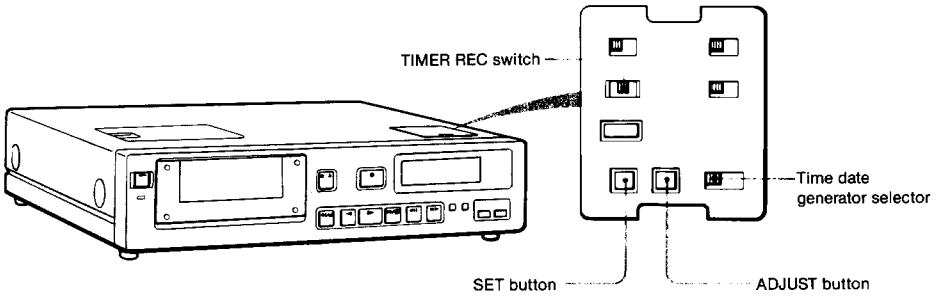
To release the ALARM SEARCH mode
Press the ALARM SEARCH or ■/⏏ button.

Notes on searching the alarm picture correctly
- Record the alarm picture for more than 10 seconds.
- Record the picture more than 100 frames between the alarm recordings (ex. for more than 25 seconds in 12H mode.)

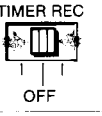


- For alarm search operation, set the PB SPEED switch to STD. Otherwise, it takes a long time to search the picture.

Three on/off times can be selected for each day of the week as the following example.
The clock time must first be set to the correct current time.

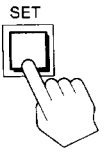


1 **Set the TIMER REC switch to OFF.**



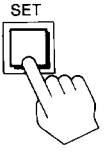
2 **Set the time date generator selector to TIMER SET.**

3 **Press the SET button.**
The timer program list will be displayed.



MAY-11-90	FR				PM 2:15	
1.SU	MO	TU	WE	TH	FR	SA
	ON	— —:— —			— — — H	
	OFF	— —:— —				
2.SU	MO	TU	WE	TH	FR	SA
	ON	— —:— —			— — — H	
	OFF	— —:— —				
3 SU	MO	TU	WE	TH	FR	SA
	ON	— —:— —			— — — H	
	OFF	— —:— —				

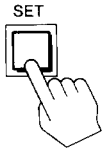
4 **Keep the SET button pressed again so that the "1" blinks.**

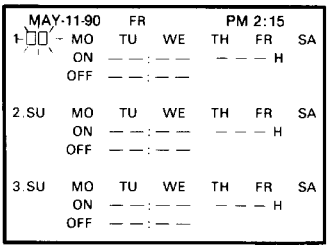


MAY-11-90	FR				PM 2:15	
1.SU	MO	TU	WE	TH	FR	SA
	ON	— —:— —			— — — H	
	OFF	— —:— —				
2.SU	MO	TU	WE	TH	FR	SA
	ON	— —:— —			— — — H	
	OFF	— —:— —				
3.SU	MO	TU	WE	TH	FR	SA
	ON	— —:— —			— — — H	
	OFF	— —:— —				

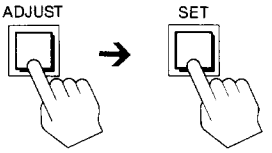
Continued

5 **Press the SET button so that the "SU" blinks.**

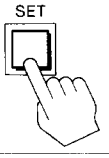


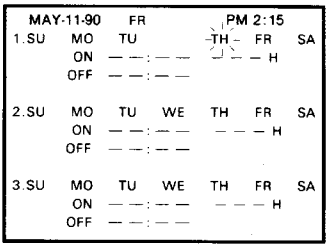


6 **Press the ADJUST button on the days of the week for which you don't wish to set the timer, then press the SET button.**

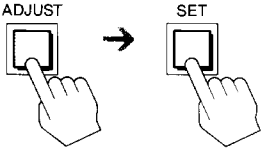


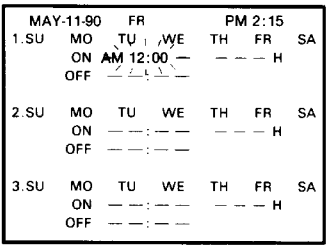
Press the SET button on the days of the week for you wish to set the timer.



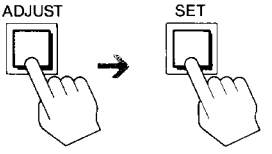


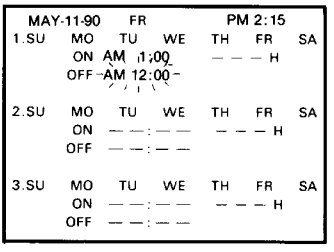
7 **Set the on-time (hour and minute) by pressing the ADJUST button and press the SET button.**



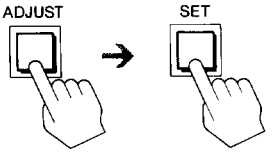


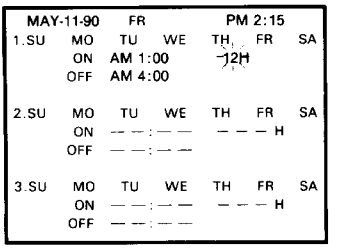
8 **Set the off-time (hour and minute) by pressing the ADJUST button and press the SET button.**





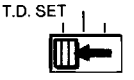
9 Set the time mode by pressing the ADJUST button and press the SET button.



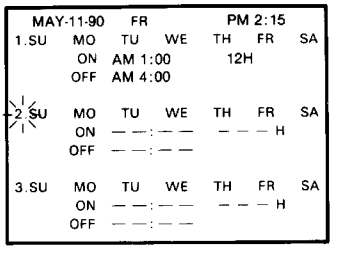


10 Set program 2.

When program 2 or 3 is not set or the timer setting is completed, set the time date generator to T.D. SET.



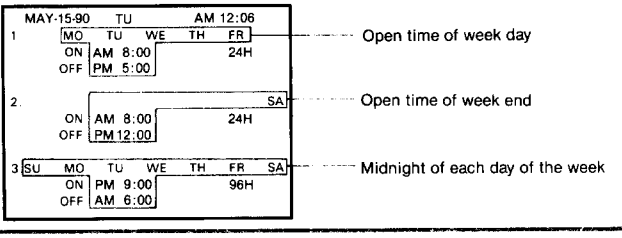
The picture from the camera will appear.



After timer-setting, set the TIMER REC switch to INT.

The TIMER REC indication will appear.

Example of timer setting

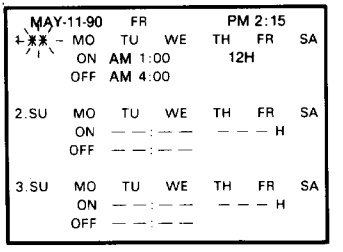

MAY-15-90 TU AM 12:06
1 MO TU WE TH FR
ON AM 8:00 24H
OFF PM 5:00
2 SA
ON AM 8:00 24H
OFF PM 12:00
3 SU MO TU WE TH FR SA
ON PM 9:00 96H
OFF AM 6:00
Open time of week day
Open time of week end
Midnight of each day of the week

To correct the adjusted item

Press the SET button until the item to be changed blinks and correct the item using the ADJUST button.
To change program 2 or 3, when the "1" is blinking, press the SET button.

To clear the program

1 Press the SET button so that the "SU" of the desired program blinks.
2 Press the ADJUST button twice so that the "＊＊" blinks.



3 Press the SET button.

To turn off the program list

Set the time date generator selector to T.D. SET.

To display the timer program list

1 Set the time date generator selector to TIMER SET.
2 Press the SET button.

• During internal timer recording, the buttons on the front panel cannot be operated. To stop the tape, set the TIMER REC switch to OFF.

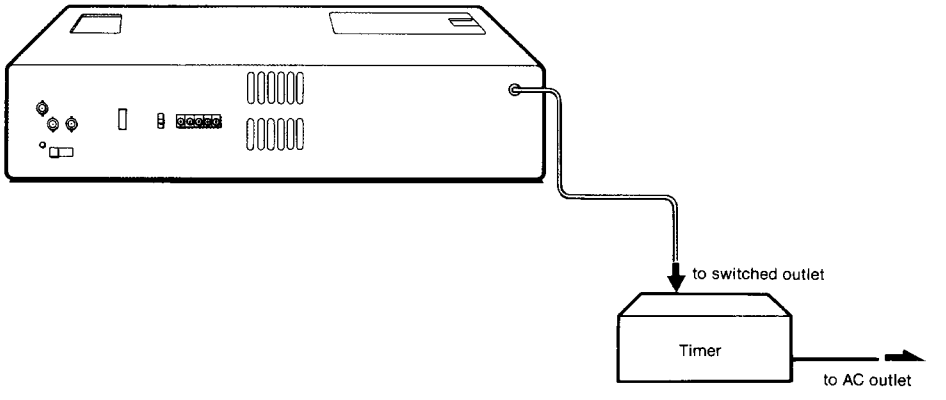
Notes

- In the timer recording standby mode, you can check the timer program list.
- During internal timer recording, you cannot check the timer program list.
- In the internal timer recording standby mode, when the REC ● button is pressed, the internal timer recording will be started.

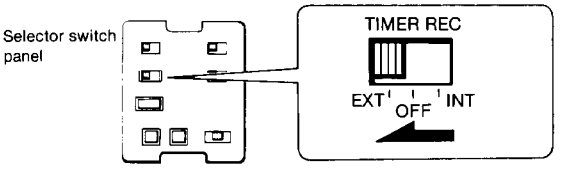
Using the External Timer

A timer can be used to automatically start recording at a preselected time.

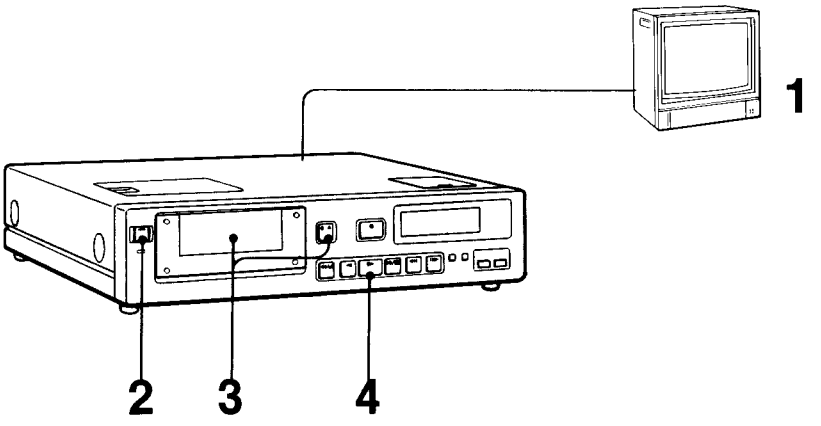
Connection



Operation



Recording starts automatically when power is supplied. Set the connected timer at the desired ON/OFF time.



1 **Turn on the monitor.**

2 **Turn on the EVT-820.**

3 **Insert the cassette.**

4 **Press the ► button.**
Playback will start.

Playback speed
Playback speed corresponds to the SP mode (2.0 cm/s) when the PB SPEED switch is set to STD.

To stop playback
Press the ■/≜ button.

To rewind the tape
Press the ■/≜ button and then the ◄◄/⏪ button.

To fast-forward the tape
Press the ■/≜ button and then the ►►/⏩ button.

Note
The upper and lower portions of the picture may be distorted according to the monitor.

Various Playback Functions

To play the tape in reverse direction		Press the ◄ button.
To view a still picture		Press the ◄II or II► button.
To view frame-by-frame pictures in succession	in forward direction	Press the II► button.
	in reverse direction	Press the ◄II button.
To view field-by-field pictures in succession	in forward direction	Select the FIELD 1 or FIELD 2 mode with the FIELD/FRAME button and press the II► button.
	in reverse direction	Select the FIELD 1 or FIELD 2 mode with the FIELD/FRAME button and press the ◄II button.
To view a tape in fast-forward (Cue)		Press the ►►/⏩ button during playback.
To view a tape in rewind (Review)		Press the ◄◄/⏪ button during playback.

- Tapping the ◄II or II► button once moves the picture by one frame (or field).
  Keeping the button depressed causes continuous frame-by-frame (or field-by-field) playback.
- Fast-forward or rewinding continues for as long as the ◄◄/⏪ or ►►/⏩ button is kept depressed.
- During cue and review, horizontal stripes will appear in the picture.
- During playback in reverse direction, some picture distortion may occur.

Notes on frame-by-frame playback
- Pressing the ◄II button during forward frame-by-frame playback moves the picture back by about 10 frames.
- During continuous frame-by-frame playback in the reverse direction, the unit automatically enters the stop mode after about 200 frames, to protect the tape.

Use of the PB SPEED switch (on the selector switch panel)

STD (Standard): Pressing the ► button starts play with regular speed.
Pressing the ◄ button starts playback in the reverse direction with regular speed.

SELECT: Pressing the ► button starts playback with the speed shown by the time mode indication. (Reverse playback is at regular speed.)
Playback at an appropriate speed is possible by setting the TIME MODE button.

Before starting to record, check the time mode indication and change the setting if necessary.

If the still picture in unstable
Press the FRAME/FIELD button to select FIELD 1 or FIELD 2 playback. In the FRAME still picture mode, the two fields (spaced by 1/60 seconds) are combined, which can lead to some instability with recordings of rapidly moving objects. FIELD 1 or FIELD 2 playback shows the respective field only, resulting in stable reproduction also of picture details.

Note on still picture playback
To protect the tape, still picture playback is automatically switched to the next frame after about 7 minutes.

Daily check routine

Perform the following checks before starting to record.

1 Turn on the camera, monitor, and EVT-820.
2 Confirm that the picture from the camera is shown on the monitor.
3 Confirm that the date and time display on the monitor is correct.
4 To check the recording condition of the previous day, rewind the tape for a few tape counter digits and set the unit to playback.
5 Confirm that playback is normal.
6 Confirm that recorded date and time information is correct.

If any malfunction is detected, switch all units off, pull the plug from the AC outlet, and consult your Sony dealer.

Video head cleaning

After prolonged use, the video heads may become contaminated, which results in impaired picture quality (snow) or loss of picture. To avoid this, head cleaning should be performed regularly.

How to use the supplied cleaning cassette

Clean the video head as follows.

1 Insert the cleaning cassette.
2 Press the ► button.
3 After about 15 seconds press the ■/⏏ button and remove the cassette without rewinding.
4 Review the picture by recording and playing back with the EVT-820.

Repeat the above procedure as required.
Avoid continuous use of more than 5 times.

Video head life

Like the pickup of a record player, video heads do not last indefinitely. If optimum picture quality is not restored even after cleaning, head replacement may be necessary. Please consult your Sony dealer.

Periodic servicing

To maintain optimum operating conditions and picture quality, unit servicing (cleaning, lubrication, parts replacement) should be performed regularly. Please consult your Sony dealer.
If the unit is to be used for critical monitoring purposes, it may be preferable to perform servicing at shorter intervals.

Extended non-use periods

When not used for long periods, the unit should be switched on now and then and set to the playback mode for about 3 minutes. This helps to prevent mechanical deterioration.

Specifications

System

Video recording system
Rotary 2-head helical scan
Video signal: NTSC color and black-and-white (selectable), EIA standard.
Usable cassettes: 8mm video format cassette
Maximum recording time
760 hours (recording interval 17 sec., with Sony P6-90 cassette)
Fast-forward/rewind time
Approx. 3 min. (with Sony P6-90 cassette)

Inputs and outputs

Video input: BNC connector
Input signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
ALARM INPUT: M3 screw type
Short circuited with COM
(Short circuited resistance less than 600 ohms)
ALARM OUTPUT: M3 screw type +5 V, output impedance 220 ohms
Video output: BNC connector
Output signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
EXT TIMING OUT
BNC connector
Open collector output, contact rating 5 V DC/100 mA, resistive load

General

Power requirements
120 V AC, 60Hz
Power consumption
27W
Operating temperature
5°C to 40°C (41°F to 104°F)
Storage temperature
−20°C to +60°C (−4°F to +140°F)
Dimensions: 355 × 86 × 340 mm (w/h/d)
(14 × 3½ × 13½ inches)
Weight: Approx. 6.3 kg (13 lbs 14 oz)
Supplied accessory
Cleaning cassette (1)

Design and specifications are subject to change without notice.

Troubleshooting

Check the following points before requesting service.

Symptom		Check
No power.		Power cord properly plugged into AC outlet?
No picture on monitor.		• Monitor and video camera switched on? • Connections properly established? • Connecting cords firmly plugged in?
Poor picture quality on monitor.		Video camera focussed properly?
"- - : - -" is shown instead of date and time indication after power interruption of less than 72 hours.		Internal backup battery was not fully charged. Unit should be left on for about 40 hours for a full charge.
Recording	Cannot record.	• Record prevention tab of cassette set to inhibit recording? • If TAPE END indicator is lit, tape must be rewound to the beginning by pressing the ◀◀/⏮ button.
	Repeat recording not possible.	• REPEAT REC switch set to "OFF"? (should be ON) • ■/⏏ or other button was pressed during automatic rewind? • Repeat recording is disabled if alarm recording was carried out (to prevent erasure of alarm recording section).
	Alarm recording not possible.	Alarm sensor properly connected?
	Time recording not possible.	• TIMER REC switch set to the correct position? • Cassette properly inserted? Record prevention tab of cassette set to permit recording? • Power interruption has occurred?
Playback	Poor playback picture quality (noise or snow).	Video head contaminated? Perform cleaning with supplied cleaning cassette. If picture does not improve after cleaning, head replacement may be necessary. Consult your Sony dealer.

Afin d'éviter tout risque d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'écarter tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

ATTENTION
Le format utilisé avec ce magnétoscope à enregistrement cadencé EVT-820 diffère légèrement du format vidéo de 8 mm. Cet appareil ne peut reproduire des cassettes vidéo de 8 mm, mais les cassettes enregistrées sur cet appareil peuvent être reproduites sur un magnétoscope à cassette de format de 8 mm.

Pour les utilisateurs au Canada

Cet appareil est conforme aux normes Classe A pour bruits radioélectriques, spécifiés dans le Règlement sur le brouillage radioélectrique.